

ABSTRACT OF THE DISCLOSURE

A high-efficiency liquid oxygen (LOX) storage/delivery system utilizes a portable LOX/delivery apparatus with a portable LOX container. A portable-unit LOX transfer connector is connected to the portable LOX container and is connectable to a main source of LOX in a primary reservoir LOX container. A portable-unit oxygen gas transfer connector is provided for transferring oxygen gas from the portable LOX container to an oxygen gas delivery device for delivering oxygen gas to a patient. An inter-unit oxygen gas transfer connector also is provided for connecting the portable apparatus to a stationary source of oxygen gas in the primary reservoir container, for transferring oxygen gas to the portable apparatus. A portable-unit primary relief valve is connected to the portable LOX container for venting oxygen gas out of the portable LOX container when pressure in the portable LOX container reaches a predetermined level. When the inter-unit oxygen gas transfer connector of the portable container is connected to the stationary source of oxygen in the primary reservoir container, oxygen gas can be transferred to the oxygen gas delivery device for delivery to the patient from the portable LOX container while oxygen gas is transferred to the portable container from the stationary source of gas in the primary reservoir LOX container.